

REMARKS

The examiner has rejected claims 1-3 and 5-8 under 35 U.S.C. §102 as being anticipated by Pate et al. The examiner has rejected claims 1 and 4 under 35 U.S.C. §102 as being anticipated by Binkley et al.

Applicant's claim 1 discloses a ground drilling tool for use in conjunction with a length of drilling pipe. The tool includes a hammer having a lower end and an upper end adapted to be coupled to a length of drilling pipe through a back head, a drill cutting bit coupled to the lower end of the hammer, and a back bit extending from the back head, the back bit has a plurality of upwardly extending cutting teeth. With this construction, the drill cutting bit creates a bore in the ground as it is moved downwardly and the back bit recuts the bore as it is moved upwardly should debris fall within the bore.

The Pate et al. patent discloses a drill reamer which includes a tubular sleeve 24 mounted about a reduced portion 14. The sleeve includes helical ribs 24.

The Binkley et al. patent discloses a drill coupling 14 which joins to lengths of drill pipe 12 and 15. The coupling includes a set of upwardly extending teeth 18 and a set of downwardly extending teeth 18.

It should be noted that the general construction of drilling equipment is not the same for all drills. The Applicant's

invention relates only to "in-hole hammer" type drilling equipment, it should be noted that none of the other references are in-hole hammer type drills as none of them include a hammer.

The Applicant's invention of claim 1 specifically states that it includes a hammer. Neither the Pate et al. nor the Binkley et al. patent includes a hammer. The examiner has erroneously referred to the Pate et al. entire reamer 1 as the hammer. A reamer is a device that enlarges a hole. A hammer is a pneumatic device that includes a reciprocating piston to create a large amount of force upon the underlying drill bit. These two devices are not the same and should not be used by the examiner in equal fashion to render the claim anticipated. Similarly, the examiner erroneously referred to the Binkley et al. cutting bit as a hammer. Again, a cutting bit is extremely different from a hammer. In fact, Applicant's specification specifically points out that a cutting bit is coupled to a hammer. As such, these two devices are not the same, are distinct from each other, and should not be used by the examiner in equal fashion to render the claim anticipated. Clearly, neither of the cited references includes a hammer at all and as such they cannot anticipate the claimed invention.

Applicant's claim 1 also states that a drill cutting bit is coupled to the lower end of the hammer. As previously pointed out, since neither reference includes a hammer neither reference can show a drill cutting bit coupled to the lower end of the hammer.

Lastly, but most importantly, neither reference shows a back bit extending from a back head mounted to the hammer. As neither reference includes a hammer they cannot possibly show a back head coupled to the hammer. Moreover, neither reference can possibly show a back bit mounted to the back head, as neither reference shows a back head. The unique and important factor of Applicant's construction is that it dislodges a bound, very expensive hammer which typically occurs because of debris hitting the top ledge formed by the hammer. It is the back bit which recuts debris so that the hammer ledge is allowed to pass back through the bore. The "reamer" of Pate et al. is not a hammer, nor a back head, nor a back bit, each having a very specific meaning in the art which do not overlap each other, and therefore the "reamer" cannot be utilized to anticipate Applicant's claimed invention. Similarly, the "coupling" of Binkley et al. is not a hammer, nor a back head, nor a back bit, and therefore the "coupling" cannot be utilized to anticipate Applicant's claimed invention.


Applicant has disclosed the novel feature of combining a hammer with a back head which includes a back bit. This combination is novel and is not shown in any of the references cited by the examiner, especially since the cited references do not show even the existence of a hammer, a back head or a back bit. As such, the combination is not anticipated by the cited references and should be awarded patent protection.

The invention recited in claim 3 again includes the limitation of a hammer and a back bit. Here the back bit is coupled to the hammer. As previously argued, the cited references do not include a hammer nor a back bit, and certainly do not include a bit back coupled to the hammer. As such, the cited references do not anticipate Applicant's claim 3.

The invention recited in claim 6 again includes the limitation of a hammer and earth cutting means. As previously argued, the cited references do not include a hammer not earth cutting means coupled to the hammer. As such the cited references do not anticipate Applicant's claim 6.

It is believed that the application is in condition for allowance. An early notice to such effect is accordingly solicited.

Respectfully submitted,



Dorian B. Kennedy
Reg. No. 36,840

BAKER, DONELSON, BEARMAN, CALDWELL & BERKOWITZ, PC
Suite 900
Five Concourse Parkway
Atlanta, Georgia 30328
(678) 406-8700

Docket No. 2171164-000001



Signature